CHARELISHVILI, A.K.

Use of herbicides and arboricides for the control of weeds and evergreen undergrowth in the mountain forest plantations of Georgia. Trudy Inst. lesa AN Gruz. SSR 12:103-111 '63.
(MIRA 18:2)

CHARKISHVILI, M.S., dotsent, kand.tekhn.nauk; KIPIANI, I., red.; [illegible], Sh., tekhn.red.

[Industrial products; goods for culture and recreation] Promyshlennoe tovarovedenie; kul'ttovary. Tbilisi, Gos.izd-vo "Sabchota Sakartvelo", 1959. 116 p. (MIRA 13:7)
(Russia—Manufactures)

USSR / Forestry. Forest Crops K-4

Abs Jour: Ref Zhur-Biol., No 13, 1958, 58409

Author : Charelishvili, A. K.

Inst : Forest Institute, AS GrusSSR

Title : Study of Mixed Pine Crops and the Establishment of Effective Mixing Types in Eastern Georgia (USSR)

Orig Pub: Tr. in-ta lesa AN GrusSSR, 1957, 7, 93-113

Abstract: Experiments conducted in several leskhozes of eastern Georgia in 1951-1953 have shown that usually only pine and ash trees were used in mixed crops. Oak and maple trees were seldom used. They were combined in a manner causing dislodgement of one tree stock by another. Thus, ash trees are dislodged by pines (in pine-ash combinations)

Card 1/2

USSR / Forestry. Forest Crops K-4

Abs Jour: Ref Zhur-Biol., No 13, 1958, 58409

oak trees are displaced by pine trees (in pine-oak types), or in some cases pines are dislodged by ash trees. It is expedient to give preference to different types of pine as principal stock, depending on the altitude; oak, ash, chestnut, and walnut trees should be given preference among foliate trees. The participation of the principal stock must not vary within a range of 50-60-70 percent. The most rational method of planting is in multiple bands or sometimes in a group mixture of species. An assortment of species desirable for forest cultivations for an altitutde 1,000-2,000 meters is given. --L. V. Nesmelov

Card 2/2

41

CHARELISHVILI, A.K.

Effect of leguminous green manure plants and shrubs on forest plantations in eastern Georgia. Trudy Inst. lesa AN Gruz. SSR 8:157-173 '58. (MIRA 12:10)
(Georgia--Forest soils) (Legumes)

CHARELISHVILI, A. K., Cand Agr Sci -- (diss) "Study of disorganized tree-felling in the mountain beech and spruce-fir forests of Georgia and methods of their restoration." Tbilisi, Academy of Sciences Georgian SSR Publishing House, 1960. 22 pp; (Academy of Sciences Georgian SSR); 150 copies; free; (KL, 27-60, 157)

CHARKLISHVILI, A.K.

Use of fertilizer in accelerating the growth of trees and increasing yield in silviculture. Soob.AN Gruz.SSR 24 no.5:579-584 My '60. (MIRA 13:8)

1. Institut lesa AN GruzSSR, Tbilisi. Predstavleno akademikom V.Z. Gulisashvili.
(Trees—Fertilizers and manures)

CHAREVICH, I. F.

ALEKSANDROV, B.F., inzh.; BALYKOV, V.M., inzh.; BARANOVSKIY, F.I., inzh.; BOGUTSKIY, N.V., inzh.; BUN'KO, V.A., kand.tekhn.nauk, dotsent; VAVILOV, V.V., inzh.; VOLOTKOVSKIY, S.A., prof., doktor tekhn.nauk; GRIGOR'YEV, L.Ya., inzh.; GRIDIN, A.D., inzh.; ZARMAN, L.N., inzh.; KOVALEV, P.F., kand.tekhn.nauk; KUZNETSOV, B.A., kand.tekhn.nauk, dotsent; KUSNITSYN, G.I., inzh.; LATYSHEV, A.F., inzh.; LEYBOV, R.M., doktor tekhn.nauk, prof.; LEYTES, Z.M., inzh.; LISITSYN, A.A., inzh.; LOKHANIN, K.A., inzh.; LYUBIMOV, B.N., inzh.; MASHKEVICH, K.S., inzh.; MALKHAS'YAN, R.V.; MILOSERDIN, M.M., inzh.; MITNIK, V.B., kand.tekhn.nauk; MIKHEYEV, Yu.A., inzh.; PARAMONOV, V.I., inzh.; ROMANOVSKIY, Yu.G., inzh.; RUBINOVICH, Ye.Ye., inzh.; SAMOYLYUK, N.D., kand.tekhn.nauk; SMEKHOV, V.K., inzh.; SMOLDYREV, A.Ye., kand.tekhn.nauk; SNAGIN, V.T., inzh.; SNAGOVSKIY, Ye.S., kand.tekhn.nauk; FEYGIN, L.M., inzh.; FRENKEL', B.B., inzh.; FURMAN, A.A., inzh.; KHORIN, V.N., dotsent, kand.tekhn.nauk; CHETVEROV, B.M., inzh.; CHUGUNIKHIN, S.I., inzh.; SHELKOVNIKOV, V.N., inzh.; SHIRYAYEV, B.M., inzh.; SHISHKIN, N.F., kand.tekhn.nauk; SHPIL'BERG, I.L., inzh.; SHORIN, V.G., dotsent, kand.tekhn.nauk; SHTOKMAN, I.G., doktor tekhn.nauk; SHURIS, N.A., inzh.; TERPIGOREV, A.M., glavnyy red.; TOPCHIYEV, A.V., otv.red.toma; LIVSHITS, I.I., zamestitel' otv.red.; ABRAMOV, V.I., red.; LADYGIN, A.M., red.; MOROZOV, R.N., red.; OZERNOY, M.I., red.; SPIVAKOVSKIY, A.O., red.; FAYBISOVICH, I.L., red.; ARKHANGEL'SKIY, A.S., inzh., red.;

(Continued on next card)

ALEKSANDROV, B.F.---(continued) Card 2.

BELYAYEV, V.S., inzh., red.; BUKHANOVA, L.I., inzh., red.; VLASOV, V.M., inzh., red.; GLADILIN, L.V., prof., doktor tekhn.nauk, red.; GREBTSOV, N.V., inzh., red.; GRECHISHKIN, F.G., inzh., red.; GONCHAREVICH, I.F., kand.tekhn.nauk, red.; GUDALOV, V.P., kand.tekhn. nauk, red.; IGNATOV, N.N., inzh., red.; LOMAKIN, S.M., dotsent, kand. tekhn.nauk, red.; MARTYNOV, M.V., dotsent, kand.tekhn.nauk, red.; POVOLOTSKIY, I.A., inzh., red.; SVETLICHNYY, P.L., inzh., red.;SAL'-TSEVICH, L.A., kand.tekhn.nauk, red.; SPERANTOV, A.V., kand.tekhn. nauk, red.; SHETLER, G.A., inzh., red.; ABARBARCHUK, F.I., red.izd-va; PROZOROVSKAYA, V.L., tekhn.red.; KONDRAT'YEVA, M.A., tekhn.red.

[Mining; an encyclopedic handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav.red.A.M.Terpigorev. Chleny glav.redaktsii A.I. Baranov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu. Vol.7. [Mining machinery] Gornye mashiny. Redkol.toma A.V.Topchiev i dr. 1959. 638 p. (Mining machinery) (MIRA 13:1)

3

ASTROV, D. N. ; ORLOVA, M. P.; CHATEVSKAYA, D. I.

"Extension de l'Echelle Internationale Pratique de Temperature au-dessous de - 182,97° C (90,18°K) "
Report presented at the 6th Session of the Advisory Committee on Thermometry to the International Committee on Weights and Measures, Sevres, France, 25-27 Sep 62

Institut National des Recherches Scientifuques pour les Mesures Physiques et Radiotechniques (U. R. S. S.)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308130005-1"

(5)

CHAREVSKAYA, D. I.; ASTROV, D. N.; BOROVIK-ROMANOV, A. S.; ORLOVA, M. P.; STRELKOV, P. G.

"Realisation de l'echelle pratique de temperature dans le domaine de 10 a 90°K,"

Report presented at the 6th Session of the Advisory Committee on Thermometry to the International Committee on Weights and Measures, Sevres, France, 25-27 Sep 1962.

Institut des Mesures physicotechniques (U. R. S. S.)

CHAREWICZ, M., mgr

Technological progress in the maritime economy and overseas trade.
Przegl techn 84 no.1:8 6 Ja '63.

RUSINIAK, Leszek; CHAREWICZ, Tadeusz

Treatment of burns with calf blood extract. Pol. tyg. lek. 19 no.40:1529-1531 5 O '64

1. Z Oddzialu Chirurgicznego dla Oparzeńców Instytutu Hematologii w Warszawie (ordynator Oddzialu Chirurgicznego doc. dr. med. Andrzej Trojanowski [deceased]).

RUSINIAK, Leszek; CHAREWICZ, Tadeusz; PIETNIEWICZ, Janusz

Disorders of the serum protein composition in burns. Pol. tyg. lek. 20 no.11:404-406 15 Mr '65

1. Z Kliniki Chirurgicznej Instytutu Hematologii w Warszawie (Ordynator: doc. dr. med. Andrzej Trojanowski [deceased]).

RUSINIAK, Leszek; CHAREWICZ, Tadeusz

Clinical observations on the application of amnionic membranes in surgical patients. Pol. tyg. lek. 20 no.17:615-616 26 Ap '65.

1. Z Kliniki Chirurgicznej Instytutu Hematologii w Warszawie (Kierownik: prof. dr. med. W. Rudowski).

POLAND

CHAREWICZ, Witold, mgr inż.; NIEMIEC, Dr. inż., Docent

Institute of Inorganic Chemistry and Metallurgy of Rare Elements, Wroclaw Polytechnic (Instytut Chemii Nieorganicznej i Metalurgii Pierwiastków Rzadkich Politechniki Wroclawskiej) (for both; Charewicz - Sr. Assistant in the Institute)

Wroclaw, Wiadomości chemiczne, No 11, November 1966, pp 693-709

"Ion flotation."

OPIENSKA- BLAUTH, Janina; CHAREZINSKI, Marian; CHAREZINSKA, Izabella Teresa; MICHALCZYK, Zdzislaw.

Indole compounds in the blood plasma and urine in cases of infectious hepatitis in children. Pol. tyg. lek. 19 no.28: 1066-1068 13 - 20 Jl '64

1. Z Zakladu Chemii Fizjologicznej Akademii Medycznej w Lublinie (kierownik: prof. dr. J. Opienska-Blauth) i z I Kliniki pediatrycznej Akademii Medycznej w Lublinie.

OPIERSKA-BLAUTH, Janina; CHARKIEWICZ, Marian

Tryptophan and its metabolism. Postepy biochem. 10 no.2:215-243 '64.

OPIENSKA- BLAUTH, Janina; CHAREZINSKI, Marian; CHAREZINSKA, Izabella Teresa; MICHALCZYK, Zdzislaw.

Indole compounds in the blood plasma and urine in cases of infectious hepatitis in children. Pol. tyg. lek. 19 no.28: 1066-1068 13 - 20 Jl '64

1. Z Zakladu Chemii Fizjologicznej Akademii Medycznej w Lublinie (kierownik: prof. dr. J. Opienska-Blauth) i z I Kliniki pediatrycznej Akademii Medycznej w Lublinie.

CHARGEYSHVIGI, A. K.

7917. CHARGEYSHVIGI, A. K. Bolezni gorla, ukha i nosa. uchebnik dlya med. ucheb. zavedeniy. tbilisi, Gruzmedgiz, 1954. 232s. s ill. 21sm. 2.000 EKZ. 4R TOK V per.--NA gruz. yaz.--(55-3447)

616.21

SO: Knizhnaya Letopis', Vol. 7, 1955

EXCERPTA MEDICA Sec 11 Vol 9/3 O.R.L. Mar 56

607. CHARGEYSHVILI A. K. and TOKHADZE T. L. Med. Inst., Tbilis. *Objective examination of hearing by plethysmography VESTN. OTO-RINO-LARING. 1955, 3 (40-44) Graphs 5 (Russian text)

Plethysmographic examinations of the left hand and distal third part of the forearm on normal and deaf persons showed that a conditional reflex to sound may be evoked and noted on the plethysmogram. The method was of practical value in malingering cases.

Prujansky - Tel Aviv

912. THE PECULIARITIES OF THE CLINICAL COURSE OF MENINGO-ENCEPHALITIS DURING TREATMENT WITH ANTIBIOTICS (Russian text) - Chargeishvili A. K. - SBORN. TRUD. TBIL. MED. INST. 1957, 1 (349-352)

Report on a case of meningitis which developed as a complication of chronic purulent otitis. The patient was cured by large doses of antibiotics (penicillin and streptomycin - 18,000,000). An operation in the course of which a large area of the dura mater was uncovered led to a final liquidation of the focal process. (S)

Country : USSR
CATEGORY : General Problems of Pathology. Tumors. Comparative Oncology
ABS. JOUR. : RZBiol., No. 12 1958, No. 56525

AUTHOR : Chargeyshvili, A.I.
INST. : -
TITLE : Electrical Potentials of the Brain in Cancer of the Larynx

ORIG. PUB. : Vestn. Oto-rino-laringologii, 1957, No.4, 38-43

ABSTRACT : In patients with cancer of the larynx, the EEG recorded delta waves which were more pronounced on the side of greatest damage. In the subsequent post-operative period, after radical surgical or irradiation treatment, there was a disappearance of the delta waves on EEG. In other diseases of the larynx (laryngitis, tuberculosis, etc.), delta waves did not appear on EEG. -- I.M. Moshcherskiy

CARD: 1/1

Chargeyshvili, A.K.

CHARGEYSHVILI, A.K., prof. PIRTSKHALAYSHVILI, V.A.

Report on the work of the Georgian Society of Otorinolaryngologists in 1956. Vest.oto-rin. 19 no.4:120-122 Jl-Ag '57. (MIRA 10:11)

1. Predsedatel' Gruzinskogo respublikanskogo nauchnogo obshchestva oto-rino-laringologov (for Chargeyshvili). 2. Sekretar' Gruzinskogo respublikanskogo nauchnogo obshchestva oto-rino-laringologov (for Pirtskhalayshvili)
(OTORHINOLARYNGOLOGISTS)

CHARGEYSHVILI, A.K., prof.; TOKHADZE, T.L., kand.med.nauk; POL'SHIN, V.V.

Electromyographic study of speech as a means of study of the functional state of auditory analysors. Vest.otorin. 21 no.3:9-13 My-Je '59. (MIRA 12:9)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - prof.A.K. Chargeyshvili) Tbilisskogo meditsinskogo instituta.

(SPEECH
electromyography in study of funct. state of auditory analysor (Rus))
(HEARING, physiol.
auditory analysor, determ. of funct. state by electromyography of speech (Rus))

CHARGEYSHVILI, A.K., prof.

On the problem of disfunction of the liver in cancer of the larynx and its diagnostic significance. Vest.otorin. 21 no.5:61-63 S-O '59. (MIRA 13:1)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - prof. A.K. Chargeyshvili) Tbilisskogo meditsinskogo instituta.
(LARYNX, neoplasms)
(LIVER DISEASES, etiology)

CHARGEYSHVILI, A.K., prof.

Mechanism of the development of a distortion of the nasal septum and the technique of operating on it. Zhur. ush. nos. i gorl. bol. 23 no.6:64-67 N-D '63. (MIRA 17:5)

1. Klinika bolezney ukha, gorla i nosa Tbilisskogo meditsinskogo instituta.

CHARGEYSHVILI, A.K., prof.; PIRTSKHALAYSHVILI, V.A.

Report on the activity of the Georgian Scientific Medical Society of Otorhinolaryngologists for 1962. Vest. oto-rin. 25 no.4:104-106 Jl-Ag '63. (MIRA 17:1)

1. Predsedatel' Gruzinskogo nauchnogo meditsinskogo obshchestva otorinolaringologov (for Chargeyshvili). 2. Sekretar' Gruzinskogo nauchnogo meditsinskogo obshchestva otorinolaringololov (for Pirtskhalayshvili).

CHARGEYSHVILI, Sh.A.

Changes in the intramural nervous apparatus of the heart during the ligation of the coronary artery. Trudy Inst.eksp.i klin.khir. i gemat. AN Gruz.SSR 10:371-376 '62. (MIRA 16:2)
(CORONARY VESSELS) (NERVES, CARDIAC)

MALYUGA, D.P.; NADIRADZE, V.R.; CHARGEYSHVILI, Ya.M.; MAKAROVA, A.I.

Biogeochemical prospecting in the high-mountain area of western Georgia. Geokhimiia no.4:330-338 '60. (MIRA 13:10)

1. V.I. Vernadskiy Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow, and the Geological Institute, Academy of Sciences of Georgia, Tbilisi. (Adzhar A.S.S.R.--Geochemical prospecting)

CHARGEYSHVILI, Yu.P.

Relation between hypoglycemia and the state of the nervous system in the genesis of coma in insulin therapy for schizophrenia. Soob. AN Gruz.SSR 26 no.3:363-367 Mr '61. (MIRA 14:4)

1. Akademiya meditsinskikh nauk SSSR, Klinika psikhiatrii im. S.S. Korsakova. Predstavleno akademikom A.D.Zurabashvili.
(INSULIN SHOCK THERAPY) (SCHIZOPHRENIA)
(HYPOGLYCEMIA)

CHARGEYSHVILI, Yu.P.

Dependence of the effectiveness of the treatment of schizophrenia patients on the duration of insulin coma. Probl. sud. psikh. no.13:237-242 '62. (MIRA 18:9)

The hemolysin of Escherichia coli. Władysław Kunicki-Goldfinger, Stanisław Chariasz, and T. Pudo (Zakład Mikrobiol., Lublin). *Acta Microbiol. Polon.* 4, 107–13 (1955).—No hemolysin (I) was found in cultures of 7 hemolytic strains of *E. coli*, grown under various conditions and in various media. Addn. of hemoglobin, stroma of erythrocytes, and lecithin to the culture medium, and growing *E. coli* in mixed cultures with a hemolytic *Bacillus*, did not promote the extracellular formation of I. Autolyzed bacteria filtrates had I activity. I is apparently an adaptive enzyme.

I. Z. Roberts

TUSZKIEWICZOWA, Maria; WYSOKINSKI, Zygmunt; CHARIASZ, Stefannia

The value of the antistreptolysin reaction in the differential diagnosis of joint diseases. Polskie arch.med.wewn. 28 no.2:209-214 1958

1. Z Zakładu Mikrobiologii Lekarskiey. Kierownik: prof.dr med. J.Parnas i z I Kliniki Chorob Wewnetrznych Kierownik: prof. dr.med. M. Gamski Akademii Medycznej w Lublinie. Adres:Zaklad Mikrobiologii Lek. A.M. Lublin, ul. Lubartowska 85.

(JOINTS, diseases
differ. diag. by determ. of blood antistreptolysin level (Pol)
(ANTISTREPTOLYSIN, in blood
determ. in differ. diag. of joint dis. (Pol))

KIRILLOVA, M.M.; CHARIKOV, B.A.

Optical properties of titanium in the quantum transition region. Fiz. met. i metalloved. 15 no.2:315-316 F '63. (MIRA 16:4)

1. Institut fiziki metallov AN SSSR.
(Titanium—Optical properties)

MIKHIN, M.K.; GORIN, V.K.; KUZIN, M.D., inzhener, redaktor; SHAVEL'ZON, M.V., inzhener, redaktor; CHARIKHOV, L.A., inzhener, redaktor.

[Automatic control of Martin furnaces] Avtomaticheskoe regulirovanie martenovskikh pechei. Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1953. 503 p. (MLRA 7:6)
(Open-hearth process) (Automatic control)

CHARIKHOV, L.A., inshener.

Electronic potentiometers. Nauka i shizn' 20 no.9:13 S '53. (MLRA 6:11)
(Potentiometer)

CHARIKOV, L.A., glavnyy inzhener.

Automatics in metallurgy. Nauka i zhizn' 22 no.1:17-20 Ja'55. (MLRA 8:2)

1. TSentral'naya laboratoriya avtomatiki Ministerstva chernoy metallurgii.
(Metallurgical plants)(Automatic control)

CHARIKHOV, L.A.

18(5,6); 25(1) PHASE I BOOK EXPLOITATION SOV/3134

Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya partiynaya shkola

Dostizheniya nauki i tekhniki i peredovoy opyt v promyshlennosti i stroitel'stve. Vyp. 2, chernaya i tsvetnaya metallurgiya (Progress in Science and Technology and Advanced Methods Applied in Industry and Construction. No. 2, Ferrous and Nonferrous Metallurgy) Moscow, Izd-vo VPSh i AON pri TsK KPSS, 1958. 157 p. 22,000 copies printed.

Ed. (Title page): G. I. Pogodin-Alekseyev, Doctor of Technical Sciences, Professor; Ed. (Inside book): G. V. Popova; Tech. Ed.: K. M. Semenov.

PURPOSE: This book is intended for the informed reader and should also be of interest to metallurgists.

COVERAGE: This is a collection of lectures, presumably delivered at the Vysshaya partiynaya shkola (Higher Party School) of the Communist Party, USSR, describing recent advances in the field of metallurgy. The approach is basically nontechnical, though a number of processes are briefly described. Specific ore deposits and metallurgical plants are referred to. Some statistics are given. No personalities are mentioned. There are no references.

TABLE OF CONTENTS:

CHARIKHOV, L.A.

Introducing automatic control of technological processes in ferrous metallurgy. Dost.nauki i tekh.i pered.op.v prom.i stroi. no.2:54-79 '58. (MIRA 12:10)
(Iron--Metallurgy) (Automatic control)

06293

15 (8)

AUTHORS: Charikhov, L. A., Engineer, Shanturin, P. M., Engineer

SOV/119-59-11-7/13

TITLE: The Use of Plastics for the Production of [redacted] Parts of Miniature Pneumatic Instruments of the AUS-TsLA Type

PERIODICAL: Priborostroyeniye, 1959, Nr 11, pp 18-20 (USSR)

ABSTRACT: The use of plastic material AG-4 of the type "B" (OM TU 431-57) is described, which is produced on the basis of phenol-formaldehyde substance and glass-fiber tissue. The parts made from this material are characterized by great strength and hardness, and have a glossy surface. The shrinkage of these parts is insignificant and uniform (0.15%). Pressing is carried out at 150-160°C and at a pressure of 400-500 kg/cm^2. The substance may be used for the manufacture of parts which must otherwise mostly be made from stainless steel. Figures 1-3 show parts of the AUS instrument; in each case, the parts on the left are made from stainless steel, and those on the right are made from the plastic material described here. Furthermore, figure 4 shows an AG-4 tube-fitting. The general applicability of this plastic substance is discussed, and it is found to be suited for the manufacture of housed parts.

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The Use of Plastics for the Production of [redacted] SOV/119-59-11-7/13
Parts of Miniature Pneumatic Instruments of the AUS-TsLA Type

Finally, it is pointed out that great success has been achieved with this substance at the "Tizpribor" Works. There are 4 figures and 1 Soviet reference.

Card 2/2

KLIMOVITSKIY, Mikhail Davidovich; KARLIK, Vitaliy Aleksandrovich; CHARIKHOV, L.A., red.; VAGIN, A.A., red. izd-va; DOBUZHINSKAYA, L.V., tekhn. red.

[Brief handbook on temperature control in ferrous metallurgy] Kratkii spravochnik po teplovomu kontroliu v chernoi metallurgii. Moskva, Metallurgizdat, 1962. 376 p. (MIRA 15:3)
(Metallurgical plants) (Temperature regulators)

MANTSEV, R.M.; GUBERT, S.V.; CHARIKHOV, L.A.; VOSKOBOYNIKOV, V.G.; STOSHA, Ye.A.

For an overall mechanization and a widespread automation in metallurgy. Metallurg 9 no.6:1-3 Je '64. (MIRA 17:9)

1. Direktor Gosudarstvennogo soyuznogo instituta po proyektirovaniyu agregatov staleliteynogo i prokatnogo proizvodstva dlya chernoy metallurgii (for Mantsev). 2. Direktor Gosudarstvennogo soyuznogo instituta po proyektirovaniyu metallurgicheskikh zavodov (for Gubert). 3. Glavnyy inzh. TSentral'noy laboratorii avtomatiki (for Charikhov). 4. Zamestitel' direktor Instituta novoy metallurgicheskoy tekhniki TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii im. I.P. Bardina (for Voskoboynikov). 5. Zamestitel' direktora Vsesoyuznogo nauchno-issledovatel'skogo i proyektno-konstruktorskogo instituta metallurgicheskogo mashinostroyeniya (for Stosha).

EWT(d)/EWT(m)/EWP(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(h)/

ACC NR: AP5015011 EWA(c) JD/HW SOURCE CODE: UR/0130/65/000/006/0001/0002

AUTHOR: Charikhov, L. A. (Chief engineer) 73 64 B

ORG: Central Laboratory of Automation (Tsentral'naya laboratoriya avtomatiki)

TITLE: Automation in ferrous metallurgy

SOURCE: Metallurg, no. 6, 1965, 1-2

TOPIC TAGS: automation, metal industry, industrial automation, rolling mill, metal rolling, automatic control, automatic control system

ABSTRACT: Soviet continuous and semicontinuous hot-strip mills (the 1450 and 2500 mills of the Magnitogorsk plant; the 1700 mills of the Cherepovets, Zhdanov, and Chelyabinsk plants; the 1680 mill of the Zaporozhstal' plant; and the 810 mill of the Novosibirsk plant) have been equipped with photoelectric pyrometers designed by the Central Laboratory of Automation (TsLA), automatic width gages designed by TsLA and VNIIMetmash, and x-ray thickness gages designed by TsLA. Thickness gages have been imported from the GDR for the 1680 mill and from the UK for the 2500 mill. Only the 1450 mill of the Magnitogorsk plant and the 1700 mill of the Cherepovets plant have been equipped with complete systems for the automatic control of strip thickness. Both systems are still undergoing tests.

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L 4106-66

ACC NR: AP5015011

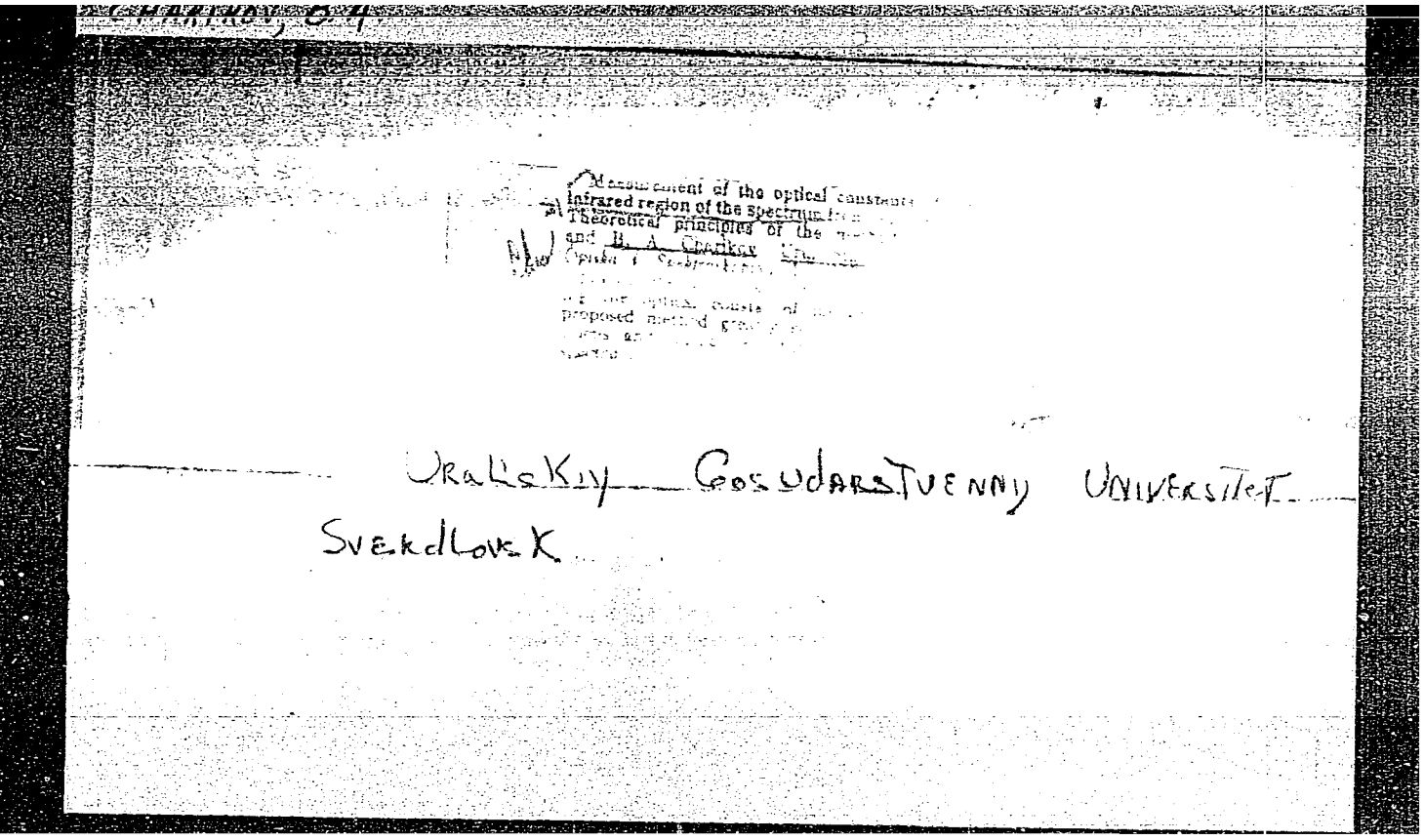
All continuous cold-strip mills (the five-stand 1200 mills of the Magnitogorsk and Lipetsk plants, the four-stand 1700 mills of the Cherepovets and Zhdanov plants, and the four-stand 1680 mill of the Zaporozhstal' plant) have TsLA thickness gages based on radioactive isotopes. The 1700 mill of the Cherepovets plant and the 1200 mill of the Magnitogorsk plant also have tension gages. The 1200 mill of the Magnitogorsk plant is the only one equipped with a system for complete automatic control of strip thickness and the tension between individual stands.

Four reversible cold-strip mills at the Novolipetskiy, Izhevskiy, Leningradskiy, and Zaporozhstal' plants have received experimental automatic systems for the control of strip thickness, but only at the Novolipetskiy plant is the system in operation. [ATD Press: 4123-F]

SUB CODE: MM, IE / SUBM DATE: none

BVK

Card 2/2



Measurement of the optical constants
infrared region of the spectrum
Theoretical principles of the
and B. A. Charkov

proposed

URALSKIY GOSUDARSTVENNYY UNIVERSITET
SVERDLOVSK

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S/126/62/013/005/030/031
E073/E535

AUTHORS: Kirillova, M.M., Noskov, M.M. and Charikov, B.A.

TITLE: Influence of heat treatment on the optical properties of metallic layers

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.5, 1962, 798-799

TEXT: The effect of heat treatment was investigated for 0.25-0.35 μ thick films of gold, copper, silver and cadmium deposited at a vacuum of 10^{-5} to 10^{-6} mm Hg onto a glass base at room temperature. The annealing was in vacuum at 110-120°C and in some cases up to 200°C. Before and after annealing, the following were determined: density (by measuring the thickness and weight), resistivity and the optical constants n and k, which were measured according to the method of J. R. Beattie (Phil. Mag., 1955, 46, 235) at the wavelengths 0.423, 0.542 and 0.550 μ in several points between 2 and 9 μ. Measurements have shown that:
1) Freshly deposited non-transparent layers of Ag, Au and Cu on glass have a density 5 to 10% lower than that of the cast metal.

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The density increases after vacuum annealing for 10 to 15 hours at 110-120°C to the values given in the table. The metal with the lowest melting point, cadmium, did not show any change in density after annealing.

	Density, $g \cdot cm^{-1}$			Resistivity 10^{-17} CGSE		
	Initial state	Annealed	Massive	Initial state	Annealed	Massive
Gold	18.3	19.1	19.3	2.2	3.5	4.06
Copper	8.65	8.90	8.95	2.1	5.0	5.35
Silver	9.50	10.4	10.5	2.65	5.1	5.60

2) The refractive index n of gold and copper shows hardly any change, after annealing, for short-wave radiation (λ = 0.423 μ) but drops by a factor of 1.5 to 2 times in the long-wave part of the visible spectrum and in the infrared range. The attenuation index k increases approximately by 20% in the same range in which n decreases. The optical constants of cadmium

change only insignificantly after annealing.
3) The changes in the optical constants correspond to a decrease by about 1.5 to 2 times in the absorption capacity A = 1 - R. The changes in the optical constants with annealing are virtually terminated after 2 to 3 hours but, for obtaining stable values of density and resistivity, the annealing had to be continued for 10 to 15 hours. Then, it can be assumed that the structure of the metal in the optical layer in the neighbourhood of the surface is satisfactorily normalised.
The normalising effect of the heat treatment is particularly noticeable on metals with a relatively high melting point, whilst metals with low melting points will deposit in vacuum at a sufficient initial density and the effect of heat treatment is negligible. Annealing has also little effect on the optical constants of gold and copper in the short-wave range of the visible spectrum in which lattice defects are not of great importance due to the quantum nature of the excitation of the electrons by light. Calculation of the classical depth of penetration $\delta = \lambda 2\pi k$ from the values of k yields the following values: $\delta = 0.0335\ \mu$ for $\lambda = 0.55\ \mu$ and $\delta = 0.0283\ \mu$ for $\lambda = 7\ \mu$ (0.35 μ thick annealed

gold). Since in the range 2-9 μ, k is almost proportional to the wavelength, the depth of penetration will be practically independent of the wavelength. In the near-infrared range the optical properties of gold can be approximately expressed by the formulae of Drude-Ziner and therefore, for an approximate estimation of the collision frequency, the relation $\gamma = 2nk\,\omega/1_{14}\,\overline{n^2 + k^2}$ can be applied, from which we obtain $\gamma \approx 0.8 \cdot 10^{14}$. Prior to annealing, γ is about twice as high and δ is about 20% higher than in the normalised annealed state. There is 1 table.

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Physics of Metals AS USSR)

SUBMITTED: January 17, 1962

BOLOTIN, G.A.; VOLOSHINSKIY, A.N.; KIRILLOVA, M.M.; NOSKOV, M.M.; SOKOLOV, A.V.; CHARIKOV, B.A.

Optical properties of titanium and vanadium in the infrared region of the spectrum. Fiz. met. i metalloved. 13 no.6:823-831 Je '62. (MIRA 15:7)

1. Institut fiziki metallov AN SSSR.
(Titanium--Optical properties) (Vanadium--Optical properties) (Spectrum, Infrared)

KNYAZEV, S.I.; CHARIKOV, B.A.

Optical adjustment of plane mirrors. Izm. tekh. no.8:22-23 Ag '63. (MIRA 16:10)

S/126/63/015/002/031/033
E039/E435

AUTHORS: Kirillova, M.M., Charikov, B.A.

TITLE: The optical properties of titanium in the quantum transition regions

PERIODICAL: Fizika metallov i metallovedeniye, v.15, no.2, 1963, 315-316

TEXT: Knowledge of the resonant frequency of quantum transitions can be used in deciphering the complex energy spectrum of electrons in metals. Measurements were carried out in the range of wavelengths $0.4 < \lambda < 4.0\,\mu$ on two titanium mirrors prepared from commercial titanium type ВТ-I,Д (VT-ID). The method of measuring the refractive index n and absorption coefficient k from which are calculated $1 - \varepsilon = 1 - n^2 + k^2$ and $\sigma = nk\nu$ is as described in earlier work of the authors and their team. An incandescent lamp was used as a source. А СФ-5 (SF-5) spectrophotometer and ИКС-2 (IKS-2) infrared spectrometer were used as monochromators in the ranges 0.4 to 1.1 μ and 0.9 to 4.0 μ respectively. Radiation was detected by means of an optico-acoustic receiver in the infrared and a photocell in the visible. Values of n and k measured vary from n = 1.65 and k = 2.90

S/126/63/015/002/031/033
E039/E435

The optical properties ...

at $\lambda = 0.475\,\mu$ to $n = 4.65$ and $k = 7.30$ at $\lambda = 4.0\,\mu$. A graph of σ against ν shows that quantum transitions begin at $\nu = 0.3$ eV ($\lambda = 4.0\,\mu$) and there are two resonant frequencies $\nu_o^1 = 0.85$ eV and $\nu_o^2 = 1.7$ eV ($\lambda_1 = 1.5\,\mu$ and $\lambda_2 = 0.8\,\mu$ respectively). The $1 - \varepsilon$ curve shows minima at 0.85 and 2.1 eV. In Ti the 3d, 4s and 4p bands overlap which makes the interpretation of results difficult. The transition energy found from the resonant frequencies ν_o^1 and ν_o^2 are near the energy gap between the 3d and 4p, and 4s and 4p levels in Ti. To explain the results it is necessary to obtain correlation with other data obtained from X-ray spectra experiments and optical and short wave investigations. There are 1 figure and 1 table.

ASSOCIATION: Institut fiziki metallov AN SSSR
(Institute of Physics of Metals AS USSR)

SUBMITTED: June 26, 1962

Card 2/2

KIRILLOVA, M.M.; CHARIKOV, B.A.

Optical properties of niobium in the region of the infrared spectrum. Fiz. met. i metalloved. 16 no.2:205-208 Ag '63. (MIRA 16:8)

1. Institut fiziki metallov AN SSSR.
(Niobium—Optical properties)
(Spectrum, Infrared)

ACCESSION NR: AP4043014 S/0051/64/017/002/0254/0258

AUTHORS: Kirillova, M. M.; Charikov, B. A.

TITLE: Investigation of the optical properties of transition metals

SOURCE: Optika i spektroskopiya, v. 17, no. 2, 1964, 254-258

TOPIC TAGS: refractive index, optical transmission, conductivity, plasma frequency, relaxation frequency

ABSTRACT: The author discusses the results of measurements of the optical properties of Tl, Zr, and Co in the infrared region of the spectrum. The measurements were made in the 2.5--20 micron interval by a polarimetric method (I. R. Beattie, Phi. Mag. v. 46, 235, 1955; Physica v. 23, 898, 1957), using bulk mirrors made from the metals in question either by mechanical or chemical polishing. The purities of the initial metals were 99.9, 99.99, and 99.9% for Ti, Zr, and Co, respectively. The tests were made at room temperature. The

ACCESSION NR: AP4043014

data are used to evaluate the plasma and relaxation frequencies of the conduction electrons. Some of the microcharacteristics of the conduction electrons are calculated and it is suggested that the electrons from the unfilled d-band contribute to the conductivity. Differences between the static conductivity, calculated from the optical data, and the measured dc conductivity are discussed. "The authors thank A. V. Sokolov and M. M. Noskov for continuous interest and help." Orig. art. has: 3 figures, 5 formulas, and 2 tables.

ASSOCIATION: None

SUBMITTED: 12Aug63 ENCL: 02

SUB CODE: OP, MM NR REF SOV: 004 OTHER: 003

2/4

ACCESSION NR: AP4043014 ENCLOSURE: 01

Refractive index (n) and absorption coefficient (k) of Ti, Zr, and Co

λ, mm microns	Ti		Zr		Co		λ, mm	Ti		Zr		Co	
	n	k	n	k	n	k		n	k	n	k	n	k
2.5	4.57	5.39	3.80	6.05	5.10	7.60	8.5	6.06	16.1	—	—	—	—
3.0	4.57	5.83	3.95	6.46	4.88	8.46	9.0	7.30	16.6	7.30	21.0	6.56	27.2
3.5	4.56	6.58	3.45	7.55	—	—	10	7.85	18.5	8.20	23.0	7.10	29.5
4.0	4.66	7.27	3.57	8.71	4.70	11.0	11	8.50	19.9	9.05	25.0	8.10	32.6
4.5	4.66	8.06	3.75	9.80	4.78	12.6	12	9.20	20.5	10.0	26.4	9.0	34.7
5.0	4.87	9.18	3.99	11.5	4.70	14.7	14	10.8	24.3	—	—	10.2	38.0
5.5	5.07	10.3	4.35	12.8	4.76	16.2	15	12.0	25.6	12.4	32.5	11.2	40.5
6.0	5.38	11.3	4.52	14.0	5.00	17.5	16	13.0	27.1	12.6	34.6	—	—
6.5	5.63	12.2	5.00	15.3	5.20	19.3	17	13.7	28.0	13.3	36.6	13.5	45.0
7.0	5.99	13.2	5.50	16.6	5.40	20.9	18	14.9	29.6	—	—	—	—
7.5	6.31	13.9	—	—	—	—	19	16.8	31.1	—	—	14.9	49.0
8.0	6.56	14.8	6.40	18.3	5.80	24.0	20	17.3	33.8	—	—	15.2	51.7

Card 3/4

ACCESSION NR: AP4043014 ENCLOSURE: 02

Plasma frequency (Ω), relaxation frequency (γ), and ratio of d- and s-conductivities of Ti, Zr, Nb, and Co

Metal	$\Omega_d^2 \cdot 10^{-34}$, $сек^{-2}$	$\gamma \cdot 10^{-14}$, $сек^{-1}$	σ_d/σ_s	$\sigma_{опт.} \cdot 10^{-17}$, $сек^{-1}$ optical	$\sigma_{ст.} \cdot 10^{-17}$, $сек^{-1}$ static
Ti	1.02	0.6	0.25	1.75	1.90
Zr	1.92	0.9	0.12	1.90	1.95
Nb	7.25	1.06	0.044	3.65	4.45
Co	2.90	0.4	0.10	8.40	12.2

Card 4/4

L 54776-65 EWT(l)/EWT(m)/EPF(c)/EEC(t)/T/EWP(t)/EWP(b)/EWA(c) Pi-4 IJP(c)
JD/WW/GG

ACCESSION NR: AP5011749 UR/0126/65/019/004/0495/0500

45
42
6

AUTHOR: Kirillova, M. M.; Charikov, B. A.

TITLE: Quantum absorption of light by some transition metals

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 4, 1965, 495-500

TOPIC TAGS: metal physics, absorption spectrum, optical absorption, refractive index, transition metal

ABSTRACT: The optical constants n and k (n is the index of refraction and k is the absorption factor) of V, Nb, Mo, Ti and Zr were experimentally determined as a function of frequency in the 0.06-5.0 ev spectral range. The purpose of the study was to obtain information on the structure of energy bands close to the Fermi level. In the case of Ti and Mo, the frequency relationship of n and k was calculated up to 18 ev by measuring the reflectivity at normal incidence and by using the Kramers-Kronig dispersion ratio (T. Moss, "Optical Properties of Semiconductors," Moscow, *IIL*, 1961)

$$\varphi(\omega)=-\frac{\omega}{\pi}\int_0^\infty \frac{\ln R(\omega)}{\omega^2-\omega^2}\,d\omega$$

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ACCESSION NR: AP5011749

Together with the Fresnel equation $r=\frac{n-ik-1}{n-ik+1}=|r|e^{i\varphi}$, where $R=|r^2|$ is the reflectivity of the metal. Data for R in the 5-25 ev range were taken from literature, while values above 25 ev were found by linear extrapolation. The measurements were made at room temperature using an IKS-12 infrared spectrometer and an SF-4 spectrophotometer. Large polycrystalline samples of the metals were studied. The purities were: Ti--99.9% and 99.99%, Zr-99.99%, V--99.99%, Nb--99.5% and Mo--99.9%. The values of n and k were used to calculate: the admittance $\sigma = nk\nu$ (ν is the frequency of the light); the real and imaginary components of permittivity $\varepsilon_1 = n^2-k^2$ and $\varepsilon_2 = 2nk$; and also the function of characteristic losses of electrons

$$\mathrm{Im}\varepsilon^{-1}=\frac{2nk}{(n^2+k^2)^2}$$

It was found that quantum transition in vanadium begin at 0.5 ev, and at 0.7 ev in niobium and molybdenum. A second absorption band which is the most intense has an almost identical "double-humped" shape for all three metals with maxima at 2.2 and 4.0 ev. This band starts at 1 ev for vanadium and molybdenum and at 1.3 ev for

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ACCESSION NR: AP5011749

3

niobium. There is also a third absorption band for molybdenum at 8 ev which is considerably lower in intensity. The first absorption band begins at 0.3 ev in titanium and at 0.5 ev in zirconium. This band also has two maxima: at 0.85 and 1.4 ev for Ti and at 1.0 and 2.0 ev for Zr. Titanium has additional absorption bands with maxima at 5, 9.5 and 16 ev. Curves for the dispersion of ε_1 and ε_2 and for the function of characteristic losses of electrons for titanium and molybdenum are given in figs. 1 and 2 of the Enclosure. "In conclusion the authors thank A. V. Sokolov and M. M. Noskov for useful comments and interest in the work." Orig. art. has: 6 figures.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, AN SSSR)

SUBMITTED: 12Jun64 ENCL: 02 SUB CODE: OP, MM

NO REF SOV: 006 OTHER: 016

Card 3/5

L 51776-65

ACCESSION NR: AP5011749

ENCLOSURE: 01

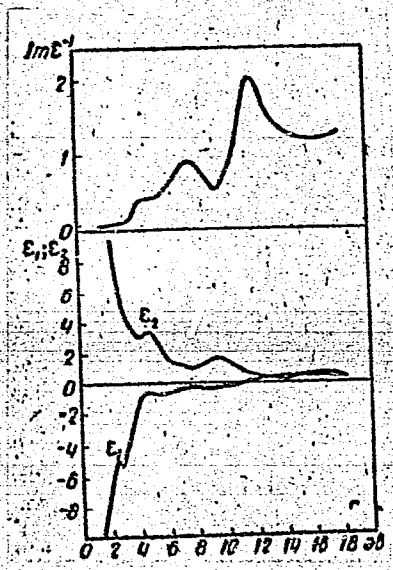

Fig. 1. Dispersion of ε_1 and ε_2 and function of characteristic losses of electrons $\mathrm{Im}\varepsilon^{-1}$ for titanium.

Card 4/5

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ACCESSION NR: AP5011749

ENCLOSURE: 02

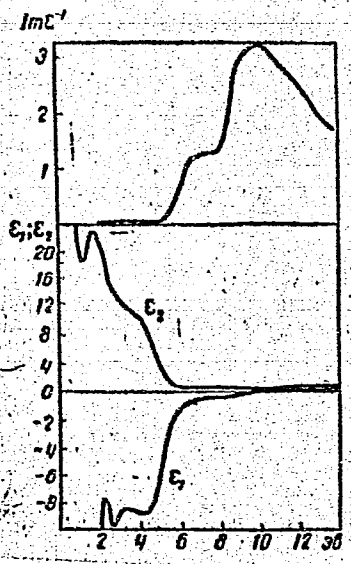

Fig. 2. Dispersion of ε_1 and ε_2 and function of characteristic losses of electrons $\mathrm{Im}\varepsilon^{-1}$ for molybdenum

Card 5/5

SHKURENKO, N.S., kand. tekhn. nauk; RAKHLIN, A.B., inzh.; SPEKTORR, M.D., kand. tekhn. nauk; CHARIN, V.A., inzh.; PETUKHOV, P.Z., doktor tekhn. nauk; GURIN, M.A., kand. tekhn. nauk; KISELEV, B.N., inzh.

[Vibration method of working frozen ground] Vibrometod razrabotki merzlykh gruntov. Moskva, Stroiizdat, 1965. 182 p. (MIRA 18:3)

1. Kafedra pod"yemno-transportnykh mashin Ural'skogo politekhnicheskogo instituta im. S.M. Kirova (for Gurin, Kiselev).

Carin, V. S. A remark on the minimal condition for sub-
[illegible] Doklady Akad. Nauk SSSR (N.S.) 66, [illegible]
1942. (Russian)

An example is constructed to illustrate the existence of a solvable periodic group which satisfies the minimal condition for normal subgroups, but does not satisfy the [illegible]

Source: Mathematical Reviews, Vol 10, No. 10 [illegible]

ČARIN, V.S.

Čarin, V. S. **On complete groups with a radical series of finite length.** Doklady Akad. Nauk SSSR (N.S.) 66, 809–811 (1949). (Russian)

A group $\mathfrak{G}$ has a "radical series" of length n if it possesses a sequence of subgroups $1=\mathfrak{G}_0\subset\mathfrak{G}_1\subset\cdots\subset\mathfrak{G}_{n-1}\subset\mathfrak{G}_n=\mathfrak{G}$ where each term is normal in the following and the factor-groups $\mathfrak{G}_{i+1}/\mathfrak{G}_i$ are isomorphic either to the additive group of rational numbers or to a group of type p^∞ for some prime number p. The following results are announced. If some set $\mathfrak{A}$ of quadratic nonsingular matrices over the field of rational numbers constitutes a complete group with an ascending central series, then all eigenvalues of each matrix A of $\mathfrak{A}$ are equal to 1. If a complete group of nonsingular matrices over the field of rational numbers possesses an ascending central series, then it is equivalent to a group of triangular matrices with units in the main diagonal and rational coefficients. If a group $\mathfrak{G}$ possesses a radical series of finite length, then it possesses an ascending central series of finite length. The proof of this last main theorem is based chiefly on S. N. Černikov's theory of complete groups [Mat. Sbornik N.S. 22(64), 319–348 (1948); these Rev. 9, 566]

K. A. Hirsch (Newcastle-upon-Tyne).

Source: Mathematical Reviews, Vol 10, No. 10

CHARIN, V. S.

Mathematical Reviews
Vol. 14 No. 11
December, 1953
Algebra.

8-10-54
LL

2

Čarin, V. S. On the theory of locally nilpotent groups. Mat. Sbornik N.S. 29(71), 433–454 (1951). (Russian)

Let $f(x)$ be an irreducible, non-cyclotomic polynomial over the rationals. For a positive integer $s \geq 2$, let $\nu(f_s)$ be the least of the orders of the irreducible factors of $f(x^s)$. The author shows that $\lim_{s\to\infty} \nu(f_s) = \infty$. Let A be a non-singular matrix over the rationals with the property that the equations $X^n = A$ all have solutions ($n = 1, 2, 3, \cdots$). Then, by the result quoted above, it is proved that the eigenvalues of A are all 1. Let a complete group be one in which equations of the form $x^n = g$ are always solvable. A complete group of matrices over the rationals turns out to be aperiodic, nilpotent, and of finite rank. Conversely, groups with these three properties are precisely those which can be represented by triangular matrices over the rationals with unities along the main diagonal. In order for a group to be complete, nilpotent, and of finite rank, it is necessary and sufficient that the group possess a finite normal chain which sweeps out the group with complete, locally cyclic factors. The extension of a complete nilpotent group of finite rank by a complete, locally nilpotent group is a complete, locally nilpotent group with a non-trivial center. If a locally nilpotent aperiodic group $\mathfrak{G}$ has a normal subgroup of finite rank, then $\mathfrak{G}$ has a non-trivial center. A solvable group $\mathfrak{G}$ of finite rank with the wider completeness property (that the x^n for each positive integral n generate $\mathfrak{G}$) is nilpotent.

F. Haimo (St. Louis, Mo.).

CHARIN, V. S.

PA 243T89

USSR/Mathematics - Non-Euclidean Geometry Nov/Dec 52

"One Method of Physical Interpretation of Lobachevskiy's Geometry," V. S. Charin

"Usp Matemat Nauk" Vol 7, No 6 (52), pp 207, 208

Conducts an analogy similar to familiar Poincare interpretation and other geometrical dualities. For example, establishes duality between geometrical objects of the Lobachevskiy plane and mechanical concepts; thus a point is dual to an inertial system, and a straight line is dual to a linear subset of inertial systems, etc. States that his interpretation is in accord with Felix Klein's ideas ("Non-Euclidean Geometry," 1936).

243T89

CHARIN, V.S.

Groups of automorphisms of certain classes of solvable groups. Ukr.mat.zhur. 5 no.4:363-369 '53. (MLRA 6:12)
(Groups, Theory of)

CHARIN, V.S.

Mathematical Reviews
Vol. 15 No. 3
March 1954
Algebra

6-23-54

Čarin, V. S. On the minimality condition for normal divisors of locally soluble groups. Mat. Sbornik N.S. 33(75), 27–36 (1953). (Russian)

The question is: for what classes of groups does the minimal condition for normal subgroups imply the minimal condition for subgroups? Results by Jennings [Bull. Amer. Math. Soc. 50, 759–763 (1944); these Rev. 6, 114], Ado [C. R. (Doklady) Acad. Sci. URSS (N.S.) 54, 471–473 (1946); 58, 523–524 (1947); these Rev. 8, 437; 9, 409], and Černikov [ibid. 58, 1287–1289 (1947); these Rev. 9, 492] are extended: the implication holds for locally nilpotent groups. Having shown previously [ibid. 66, 575–576 (1949); these Rev. 10, 677] that the implication fails for solvable groups, the author now shows that the implication holds for locally solvable groups such that each factor of some chief series of the group has finite rank.

R. A. Good.

Čarin, V. S. On groups of automorphisms of nilpotent groups. Ukrain. Mat. Ž. 6, 295–304 (1954). (Russian)

A multiplicative group of algebraic numbers, each a root of a polynomial over the rational field of degree not exceeding a fixed number m, is a direct product of a finite group and a free abelian group of finite or countable rank. A solvable group of non-singular matrices over the rational field contains a normal subgroup in which all the matrices are reducible to triangular form with unity on the main diagonal and such that the factor group is a finite extension of a free abelian group of finite or countable rank. Let Γ be a group of certain automorphisms of a nilpotent torsion-free group G of finite rank. If Γ is solvable, then G has a central chain of subgroups relative to a suitable normal subgroup Δ of Γ such that Γ/Δ is a finite extension of a free abelian group of finite or countable rank. If Γ is locally nilpotent, then Γ is nilpotent, it has a normal subgroup A of finite rank such that Γ/A is a free abelian group of finite or countable rank and its maximal periodic subgroup is finite. A group having a normal series each factor of which is a non-cyclic subgroup of the additive group of rational numbers is a finite extension of a nilpotent group. *R. A. Good*

CHARIN, V.S.

SUBJECT USSR/MATHEMATICS/Algebra CARD 1/1 PG - 938
AUTHOR CHARIN V.S.
TITLE On locally solvable groups of finite rank.
PERIODICAL Mat.Sbornik,n.Ser. 41, 37-48 (1957)
reviewed 7/1957

Several theorems on locally solvable groups are proved:
1) Every locally solvable group with a finite rank has a locally nilpotent normal divisor, where its factor group is solvable.
2) A torsion-free locally solvable group of finite rank is solvable.
3) If G is a locally solvable group of finite rank and satisfies the minimal condition with respect to its Abelian periodic subgroups, then it is solvable and has a periodic normal divisor $\mathfrak{N}$ which satisfies the minimal condition and for which the factor group $G/\mathfrak{N}$ is of the type A_4 (i.e. it has a finite normal series, where all factors are Abelian, of finite rank and with finite periodic parts).
4) Every locally solvable group of finite rank without proper subgroups of finite index is nilpotent.

Further theorems relate to solvable groups with a rational series of finite length and treat the π-completeness of the considered groups with respect to certain groups of prime numbers (cf.Chernikov, Mat.Sbornik 22, 455-456 (1948)).

INSTITUTION: Sverdlovsk.

CHARIN, V. S.

SUBJECT USSR/MATHEMATICS/Algebra CARD 1/3 PG - 948
AUTHOR CHARIN V.S.
TITLE On groups with solvable invariant series.
PERIODICAL Mat.Sbornik,n.Ser. 41, 297-316 (1957)
reviewed 7/1957

The author considers the so-called RI*-groups (according to the terminology of Kurosh) and similar groups.
Let G be a group and Γ its automorphism group, where it is assumed that contains all inner automorphisms. Definition: G has an increasing central series with respect to Γ if in G there exists an ordered series of subgroups

$$1 = Z_0 \subset Z_1 \subset \dots \subset Z_\alpha \subset Z_{\alpha+1} \subset \dots \subset Z_\beta = G,$$

which has the following properties: 1) all Z_α are Γ-admissible subgroups of G, 2) all automorphisms of Γ induce identical automorphisms in all factor groups $Z_{\alpha+1}/Z_\alpha$, 3) if β is the last ordinal number, then $Z_\beta = \sum_{\alpha<\beta} Z_\alpha$.
Definition: a group which has an increasing invariant series with Abelian factors is called an RI*-group.
Definition: a group which has an increasing invariant series with Abelian factors of finite rank is called an FRI*-group.

Mat.Sbornik,n.Ser. 41, 297-316 (1957) CARD 2/3 PG - 948

Several lemmas and eight theorems are proved,e.g.:
Theorem 1: The locally nilpotent normal subgroups $\mathfrak{N}$ of finite rank of the group $\mathfrak{G}$ have an increasing central series with respect to $\mathfrak{G}$ if one of the following conditions is satisfied:
A) $\mathfrak{G}$ is locally nilpotent, B) $\mathfrak{G}$ is locally solvable and has no effective subgroups of a finite index, C) $\mathfrak{G}$ is an RI*-group without effective subgroups of a finite index, D) $\mathfrak{G}$ is complete.
Theorem 2: Let $\mathfrak{G}$ be an FRI*-group and besides let one of the following conditions be satisfied: A) $\mathfrak{G}$ is locally nilpotent, E) $\mathfrak{G}$ has no effective subgroups of finite index. Then $\mathfrak{G}$ has an incresing central series.
Theorem 3: Let $\mathfrak{G}$ possess a subgroup $\mathfrak{H}$ of finite index being either A) locally nilpotent or F) an FRI*-group. Then from the minimal condition for the normal subgroups of $\mathfrak{G}$ there follows the minimal condition for their subgroups.
Theorem 4: Let $\mathfrak{G}$ posess the increasing invariant series

(1) $$1 = \mathfrak{G}_0 \subset \mathfrak{G}_1 \subset \ldots \subset \mathfrak{G}_\alpha \subset \mathfrak{G}_{\alpha+1} \subset \ldots \subset \mathfrak{G}_\gamma = \mathfrak{G}$$

with the Abelian factors $\mathfrak{G}_{\alpha+1}/\mathfrak{G}_\alpha$ the ranks of which are finite and bounded by a natural number. Then the commutator $\mathfrak{G}^{(s)}$ of $\mathfrak{G}$ with an arbitrary natural number s has an increasing central series.
Theorem 5: Let the periodic group $\mathfrak{G}$ have an increasing invariant series (1)

the factors $\mathfrak{g}_{\alpha+1}/\mathfrak{g}_{\alpha}$ of which are Abelian groups with one or two generators. Then the third commutator $\mathfrak{g}^{(3)}$ of $\mathfrak{g}$ has an increasing central series.

Further three theorems treat radical groups (cf. Plotkin, Mat.Sbornik,n.Ser. 37, 507-526 (1955)) the normal subgroups of which have an increasing series, and solvable groups the radical of which has an increasing series; assertions on the minimal conditions are made.

INSTITUTION: Sverdlovsk.

CHARIN, V.S.

Locally bicompact locally solvable groups satisfying the minimum condition for closed subgroups. Sib.mat.zhur. 1 no.1:139-151 My-Je '60. (MIRA 13:11)

(Groups, Theory of)

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The Ural Mathematical Society. Usp. mat. nauk 15 no.2:245-247 Mr-Ap '60. (MIRA 13:9)
(Sverdlovsk--Mathematical societies)

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Solvable type A_4 groups. Mat. sbor. 52 no. 3:895-914 N '60.
(MIRA 13:12)

(Groups, Theory of)

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S/020/60/131/05/13/069

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AUTHOR: Charin, V.S.

TITLE: Locally Bicompact Solvable Groups Satisfying the Minimum Condition for Closed Subgroups

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 5, pp. 1036-1037

TEXT: Theorem: A locally bicompact solvable group satisfies the minimum condition for closed subgroups then and only then if each of its Abelian subgroups satisfies the minimum condition for closed subgroups.
The proof bases on results of A.I.Mal'tsev, S.N.Chernikov and V.M.Glushkov.
There are 4 Soviet references.

PRESENTED: December 15, 1959, by A.I.Mal'tsev, Academician

SUBMITTED: December 10, 1959

4

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CHART, V.S.

Topological [illegible] groups satisfying minimum condition for closed subgroups. Uspekhi mat. nauk 16 no.5:209-214 S-O '61.
(MIRA 14:10)

(Groups, Theory of)
(Topology)

CHARIN, V.S. (Sverdlovsk)

Solvable groups of the type A_3. Mat. sbor. 54 no.4:489-499 Ag '61. (MIRA 14:8)
(Functions, Abelian) (Functional groups)

CHARIN, V.S.

Note on groups with expanding soluble invariant series. Mat. zap. Ural. mat. ob-va UrGU 3 no.3:50-54 '62.

Locally bicompact locally soluble groups satisfying the minimality condition for closed subgroups. Ibid.:55-59 (MIRA 18:7)

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Bicompact groups with maximality condition for subgroups. Dokl. AN SSSR 145 no.5:1010-1011 '62. (MIRA 15:8)

1. Sverdlovskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. Predstavleno akademikom A.I.Mal'tsevym.
(Groups, Theory of)

CHARIN, V.S.

Certain classes of locally bicompact groups with maximur conditions for Abelian subgroups. Sib. mat. zhur. 5 no. 2:438-458 Mr-Ap '64. (MIRA 17:5)

CHARIN, V.S. (Sverdlovsk)

Note on Carter's theorem. Ukr. mat. zhur. 17 no.6:132-134 '65.
(MIRA 19:1)

1. Submitted February 24, 1965.

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Groups of finite rank. Part 1. Ukr. mat. zhur. 16 no.2:212-219 '64. (MIRA 17:3)

CHARINTSEV, A. A.

Bees

Caucasian queen bees Pchelovodstvo No. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

STEFANOV, G. (Sofia); STEFANOV, D. (Sofia); BOJADZIEVA, P. [Boiadzhieva, P.] (Sofia); CHARIZANOVA, L. [Kharizanova, L.] (Sofia)

Solid phase reaction in kaolin and calcium carbonate mixture.
Sklar a keramik 15 no.3:87-91 Mr '65.

CHARKASAVA, L.S.; MERAZHYNSKI, M.F.; HUTOUSKAYA, A.V.

Comparative evaluation of the activity of carbonic anhydrase in various animal tissues after fracture. Vestsi AN BSSR no.3:159-167 My-Je '52. (MLRA 7:8)

(Fractures) (Carbonic anhydrase)

S/194/61/000/006/025/077
D201/D302

9.3280

AUTHORS: Volodin, V.S. and Charkashina, A.G.

TITLE: An integrator of a self-adjusting automatic control system with forced oscillations

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1961, 44, abstract 6 V310 (V sb. Avtomat. upravleniye, M., AN SSSR, 1960, 380-385)

TEXT: The integrator has been applied to an actual system of extremum control. It consists of a magnetic modulator, a transistorized power amplifier and an output motor stage which moves the slider of a potentiometer. The integrator is simple, reliable and cheap. 3 references. [Abstracter's note: Complete translation]

VB

Card 1/1

CHARKASHINA, M.F., spets. red.; VOLKOVA, S.N., otv. za izdaniye; SHELYUTTO, Ye.P., red.; KHARITONOVA, L.I., tekhn. red.

[Standard methods of tailoring men's custom-made coats and suits] Tipovye metody poshivki muzhskogo pal'to i kostiuma po individual'nym zakazam. Izd.3., i perer. Moskva, Gostmestpromizdat, 1961. 241 p. (MIRA 15:6)

1. Moscow. TSentral'naya opytno-tekhnicheskaya shveynaya laboratoriya.

(Tailoring)

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Cutting tunnel No.2 in construction of the Khram Hydroelectric Power Station No.2. Gidr. stroi. 32 no.12:8-11 D '61.
(MIRA 15:2)
(Khram Hydroelectric Power Station No.2--Tunneling)

CHARKHALASHVILI, N. D., insh.

Ways to lower excess excavation of rock in the construction of hydraulic tunnels. Gidr. strei. 33 no.12:4-7 D '62. (MIRA 16:1)

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CHARKIEWICZ, A. A.

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SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

CHARKIN, A.F.

Review of certain orders in "Instructions for applying the resource classification system to deposits of brick and tile clays and agrillaceous soils." Razved.i okh.nedr 23 no.3:36-39 Mr.'57. (MLRA 10:5)

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VINITSKIY, A.M., kand.tekhn.nauk; CHARKIN, A.I., inzh.

Electromechanical lifting-capacity controller for heavy tower cranes. Mont. i spets. rab. v stroi. 24 no.8:20-22 Ag '62. (MIRA 15:8)

1. Yuzhnyy nauchno-issledovatel'skiy institut po stroitel'stvu Akademii stroitel'stva i arkhitektury UkrSSR.
(Cranes, derricks, etc.)